

REMARKS

The Examiner's Action mailed on May 20, 2004 has been received and its contents carefully considered.

Claims 18-22 were previously pending in this application. Claim 18 is amended, and new claim 23 is added herein. Claim 18, as amended, remains the sole independent claim.

In the Action, the drawings are objected to because boxes 3 and 4 in Figure 2 are not labeled or shown as to their use or purpose. A replacement drawing sheet containing Figure 2 with corrections to overcome the Examiner's stated objections is attached to this Amendment. Approval of the corrected figure and withdrawal of the objections to the drawings are respectfully requested.

The title of the invention is objected to by the Examiner as not being descriptive of the invention to which the claims are directed. A new title is proposed herein that is believed to overcome the Examiner's objection. Accordingly, withdrawal of the objection to the title is respectfully requested.

In the Action, claims 18, 19 and 22 are rejected under 35 USC 102(e) as being anticipated by Heisley et al., U.S. Patent No. 6,333,623. Claims 18, 19 and 22 are also rejected under 35 USC 102(b) as being anticipated by Kadanka, U.S. Patent No. 5,966,004. Claims 20 and 21 are rejected under 35 USC 103(a) as being obvious over Kadanka. In response, claim 18 is amended herein to more clearly distinguish the claimed invention over the applied references.

With regard to claims 18, 19 and 22, the Examiner points to Heisley (Figure 4) as disclosing a voltage regulator (56) comprising a series regulator (66 and 68) coupled to an output node (72) and supplied with a reference voltage (V_{REF}) and a first voltage (V_M) generated by dividing (255) the voltage at the output node, and a shunt type regulator (220 and 240') coupled to the output node and supplied with the reference voltage and a second voltage the same as the first voltage from the divided voltage at the output node.

Similarly, the Examiner points to Kadanka (Figure 1) as disclosing a voltage regulator (100) comprising a series regulator (210 and 230) coupled to an output node (205) and supplied with a reference voltage (V_{REF}) and a first voltage generated by dividing

the voltage at the output node, and a shunt type regulator (220 and 240') coupled to the output node and supplied with the reference voltage and a second voltage the same as the first voltage from the divided voltage at the output node.

Anticipation, under 35 U.S.C. §102, requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference. As amended, claim 18 recites that the shunt regulator includes "a constant current source which is coupled between a power supply voltage and the output node and which supplies a constant current to the output node." As noted on page 11, lines 9-13 of the specification, this feature advantageously prevents analysis of the internal state of any logic circuits connected as a load to the voltage regulator by monitoring the power supply current waveform, as long as the load current does not exceed the capability of the constant current source.

By contrast, both Heisley and Kadanka fail to teach or suggest the recited constant current source. In Heisley, the variation of the current flowing through the pass element 68 follows directly the variation of the current flowing to the load through the output node V_{OUT} . Similarly, in Kadanka, the variation of the current flowing through the transistor 210 follows directly the variation of the current flowing to the load through the output node 205. Neither Heisley nor Kadanka employ "a constant current source which is coupled between a power supply voltage and the output node," as recited in claim 18, that provides the security feature discussed in the preceding paragraph.

For at least the forgoing reasons, it is respectfully submitted that claim 18, as well as claims 19-22, patentably distinguish over both of the applied prior art references.

New dependent claim 23 is added to provide patent protection for additional features of the invention disclosed in the application.

In summary, it is submitted that this Amendment places the application in condition for allowance. Notice of allowance and the passing of this application to issue, are earnestly solicited.

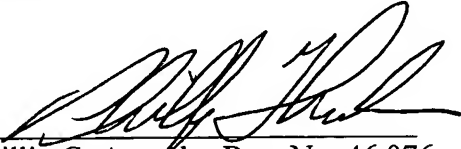
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If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is hereby invited to telephone the undersigned counsel to arrange for such a conference.

Respectfully submitted,

August 19, 2004

Date



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Attachment:

- Replacement Drawing Sheet (Figs. 1&2)